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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/350,948 07/09/99 CARTER

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EXAMINER

MAYO, T

ART UNIT

PAPER NUMBER

3673

DATE MAILED:

10/05/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/350,948

Applicant(s)
CARTER et al.

Examiner
Tara L. Mayo

Group Art Unit
3673



☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-47 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-47 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5 and 6

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 3673

DETAILED ACTION

1. The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 3673.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

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3. The abstract of the disclosure is objected to because it contains legal phraseology throughout. Correction is required. See MPEP § 608.01(b).

Claim Objections

4. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 10 through 48 been renumbered 9 through 47.

5. Claim 24 is objected to because of the following informalities: minor grammatical errors.

In claim 24 at line 1, change "herein" to --wherein--.

Appropriate correction is required.

Claim Rejections - 35 U.S.C. § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims 9 and 11 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "light weight" in claim 11 is a relative term which renders the claim indefinite. The term "light weight" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Claims 11 and 13 are further similarly rejected for the recitations of "high", "small", and "intense."

With respect to claim 9, there is an inconsistency between the preamble and the body of the claim thereby rendering the scope of the claimed invention unclear. Specifically, it is unclear if the scope of the claimed invention encompasses the device for the trenchless replacement of in-situ pipe alone, or the combination of the device and the pipe. Applicants are required to clarify to what the claim is intended to be drawn and to make the language of the claim consistent with the intent. For the purposes of prosecution on the merits, the Examiner has considered the claim to be drawn to the combination of both the device and the pipe.

Claim Rejections - 35 U.S.C. § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

9. Claims 1, 2, 8, 9, 11, 13, 16, 19, 20, 25, 26, 30, 31, 33, 35, and 40 through 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Fisk et al. (U.S. Patent No. Re. 35,542).

Fisk et al. '542 disclose a device for the trenchless replacement of in-situ pipe comprising:

a mole (22);

a length of cable (25), said cable being engageable with said mole;

a cable pulling means including a cable pulling device (28) and a cable pulling device engagement means (40) functioning to provide a mounting structure for said cable pulling device;

wherein said cable pulling device includes a cable engagement mechanism that functions to pull said cable in a plurality of repeated cyclic pulling strokes (col. 5, lines 25 through 34);

wherein the cable pulling device is a post tensioned ram (PTR) (col. 5, lines 25 through 31);

wherein the pipe is composed of a fracturable material;

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wherein the PTR is portable as a result of using hydraulics;

wherein the hydraulics are used to give the PTR its pulling power;

wherein said cable pulling device engagement means includes a reaction plate having an enlarged surface for disbursing a reaction force against a cable pulling force generated by said cable pulling device;

wherein said cable pulling frame is mountable to said reaction plate;

wherein said cable pulling frame includes a plurality of frame members and a rotatable cable pulley (41) mounted to said frame members;

wherein said frame members are disposed to provide a cable engagement path in relation to said frame;

wherein said frame includes a plurality of leg members that are engaged at an inner end thereof to a base member, and said leg members are engaged at an outer end thereof to further frame members that engage said pulley;

wherein said mole includes a nose portion being engageable to said cable, a tapered body portion, and a replacement pipe engagement portion, said mole further including at least one blade, said tapered body portion acting to expand said pipe for replacement thereof with a length of replacement pipe, and said blade acting to cut pipe engagement devices encountered by said mole after said pipe has been expanded by said tapered body portion (see Figs. 2 and 3);

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wherein the blade includes a relatively thin portion that is disposable within said tapered body portion of said mole and an expanded portion that projects from said tapered body portion of said mole (see Fig. 2);

wherein a threaded bore is formed within said mole, and wherein a mole engagement fixture (26) is fixedly engaged to an end of said cable, said fixture including a threaded end portion that is threadedly engageable with said threaded bore;

further including a replacement pipe engagement sleeve member (22) for the engagement of said replacement pipe with said mole, said sleeve member being formed for the engagement of said replacement pipe with cylindrical sidewalls and an internal radially projecting wall portion having a bore formed therethrough; and

wherein said mole is formed with a rearwardly projecting threaded portion that projects through said bore such that said sleeve may be secured to said mole.

With respect to claims 40 through 47, the method steps recited therein are considered to be anticipated by installation and use of the device disclosed by Fisk et al. '542.

Claim Rejections - 35 U.S.C. § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a

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person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 3 through , 7, 10, 12, 15, 17, 18, 21 through 24, 27, 28, 32, 34, and 36 through 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisk et al. (U.S. Patent No. Re. 35,542).

Fisk et al. '542 disclose all of the features of the claimed invention with the exceptions of :

a cable engagement mechanism functioning to engage the cable in a pulling stroke, release said cable in a recovery stroke, and engage said cable in a further pulling stroke, whereby said cable pulling device conducts a repeatable cycle of pulling and releasing of said cable;

at least one cable engaging collet that functions to engage said cable on a pulling stroke to release said cable on a recovery stroke;

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at least one further collet engages with the cable pulling device that functions to engage said cable on said recovery stroke and release said cable on said pulling stroke;

a cable pulling device formed with a slotted cable insertion means for the sideways insertion of said cable within said cable pulling device;

a cable pulling device used to generate a pulling force up to and over 100 tons for distances from 2 feet to over one mile, said pulling forces not being affected by cable length;

a PTR having a weight to pulling force ratio in the range of 2 pounds of weight per ton of pulling force;

an annulus member including a cable passage bore formed therethrough, the annulus including a cable pulling device holding means for releasably holding a portion of the cable pulling device therein;

frame members disposed to provide a cable mounting ap that allows the frame to be mounted to a side of said cable;

a fixture including a hex nut portion integrally formed therewith;

With respect to claim 3, while Fisk et al. '542 do not expressly disclose the operation of the cable puller, the claimed limitations are considered to be anticipated by the patented reference's express teaching of a "reciprocating cable puller."

With respect to claims 4 through 6, it would have been obvious to one of ordinary skill in the art of cable pulling at the time of invention to modify the device disclosed by Fisk et al.

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'542 such that it would include at least one collet for engaging the cable on each the pulling stroke and the recovery stroke, and for releasing the cable on the respective opposite stroke. The motivation would have been to include means by which tension could be applied uniform to the cable.

With respect to claims 7 and 27, it would have been obvious to one of ordinary skill in the art of cable pulling at the time of invention to modify the cable pulling device with a slot for inserting the cable sideways into the same. The motivation would have been for ease of installation.

With respect to claim 10, it would have been obvious to one of ordinary skill in the art of pipe replacement at the time of invention through routine experimentation and optimization to determine an optimal pulling force for the cable pulling device. The motivation would have been to provide sufficient force to advance the device through the soil having a characteristic resistance, and to rupture the in-situ pipe.

With respect to claims 12, 24, and 32, due to Applicant's failure to disclose any criticality or synergistic result attributable to the claimed limitations, they are considered to be immaterial to the patentability of the claimed invention.

With respect to claims 14, 15, 17, and 18, it would have been obvious for one of ordinary skill in the art of cable pulling at the time of invention to further modify the device shown by Fisk et al. '542 such that it would include an annulus member including a cable

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passage bore formed therethrough and a cable pulling device holding means. The motivation would have been to center the cable along the length of the pipe during operation.

With respect to claims 21 through 23, 28, and 29, it would have been obvious to one of ordinary skill in the art of pipe laying at the time of invention to modify the frame shown by Fisk et al. '542 such that it would include frame members disposed to provide a cable mounting gap that allows the frame to be mounted to a side of said cable. The motivation would have been for ease of installation.

With respect to claim 34, it would have been well within the ordinary level of skill for one in the art of connections at the time of invention to modify the fixture shown by Fisk et al. '542 such that it would further include a hex nut portion integrally formed therewith. The motivation would have been to effect a means for tightening the fixture within the mole.

With respect to claims 36 through 39, a duplication of parts is not considered to be of patentable merit. As such, Applicants' claimed invention is anticipated by the device shown by Fisk et al. '542 and in view of the above statements of obviousness.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tara L. Mayo whose telephone number is (703) 305-3019. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis, can be reached on (703) 308-3248. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3597.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.


FLM

2 October 2000


EILEEN D. LILLIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600